

NOTES ON LESPEDEZA

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SEVERAL weeks ago Mr. C. C. Deam sent to the Gray Herbarium for determination a set of specimens of *Lespedeza* from Indiana, and pointed out the fact that several sheets of *L. virginica* (L.) Britton possessed a spreading type of pubescence instead of the usual strigose type. In examining these sheets I was impressed by the similarity which they bore to *L. Stuevei* Nutt. var. *angustifolia* Britton, but under close scrutiny several differences appeared. Consequently, it became necessary to study all the material of the close relatives of *L. virginica* in the Gray Herbarium in order satisfactorily to place these specimens.

The current treatment of the genus in our Manuals is necessarily brief and concise, and in many instances this brevity makes accurate identification so difficult that it was felt that a short synopsis of each of the species closely related to *L. virginica* would be exceedingly helpful. The following brief descriptions do not contain any wholly new characters, but they include various ones which have been used in some Manuals and omitted in others.

L. STUEVEI: stem erect, virgate or more rarely virgate-branched, densely pubescent with wide-spreading hairs; principal cauline leaflets small for the group, elliptic-oblong to oval or more rarely suborbicular, appearing crowded on the stem, densely strigose-tomentose beneath, slightly less so above; petioles subappressed, shorter than the leaves, averaging 1.7 cm. in length; flower-clusters appearing crowded and sessile to subsessile; peduncles of the petaliferous flowers short, 3–10 mm. in length; calyx and pod commonly villous-canescens.

L. VIRGINICA: stem erect, virgate or more rarely virgate-branched, sparingly pubescent with short, closely appressed hairs; principal cauline leaflets linear to linear-oblong, appearing crowded on the stem, strigillose to glabrous above, strigose beneath; petioles subappressed, slightly shorter than the leaves, averaging 2 cm. in length; flower-clusters appearing crowded and sessile or subsessile; peduncles of petaliferous flowers short, 3–12 cm. in length; calyx and pod commonly strigose to strigillose.

L. INTERMEDIA: stem erect, virgate-branched, more rarely strictly virgate, sparingly pubescent with closely appressed short hairs; principal cauline leaflets larger than in *L. Stuevei* and *L. virginica*, elliptic-oblong to oval or rarely suborbicular, appearing less crowded on the stem than in the preceding two species, glabrous or very rarely strigillose above, strigose beneath; petioles more spreading than in the above two species, nearly equalling but rarely exceeding the length of the leaves; flower-clusters less crowded, but appearing sessile or subsessile; peduncles of the petaliferous flowers mostly longer than in the preceding two species, averaging 11 mm. in length; calyx and pod commonly strigose to strigillose.

It appears that *L. Nuttallii* Darlington, with its very striking, long peduncles, and the villous pubescence of its stem, is rather clearly distinct from the members of this group, and although its close relationship is readily admitted, it may be safely excluded from a discussion of this nature.

Some varieties of *L. intermedia* and *L. Stuevei* have already been recognized, but in view of the fact that these do not exhibit any peculiar geographic segregations and are to be found throughout the range of their species, and in view of the fact that they differ from the typical form of the species in either the type of the pubescence of the stem or in the shape of the leaflets, it seems wiser to reduce them to mere forms than to maintain them as varieties, and to describe the Indiana plant, likewise, as a form. This may be done as follows:

L. VIRGINICA (L.) Britton f. **Deamii**, n. f., caulis pubescens pilis patentibus.—Sandy hillsides and dry fields and barrens, Connecticut west to Illinois and south to Tennessee. CONNECTICUT: New Haven, without number and without date, *ex Herb. A. Gray*. NORTH CAROLINA: dry hillsides, Swain County, altitude 2000 ft., *Beardslee and Kofoid*, 1891. KENTUCKY: barrens of Ky., 2–3 ft. high, *C. W. Short*, 1835. TENNESSEE: Hollow Rock Jc., Carroll County, *H. K. Svenson*, August 27, 1922, No. 456. INDIANA: 4 miles north of Washington, Davies County, Sept. 19th, 1934, *C. C. Deam*, No. 55,645 (TYPE in the Gray Herbarium); 6 miles n. w. of Chesterton, Porter County, 14 Sept. 1934, *C. C. Deam*, No. 55,556. ILLINOIS: Bath, black-jack oak association, Aug. 17, 1903, *H. A. Gleason*.

L. INTERMEDIA f. **Hahnii** (Blake), n. comb. *L. intermedia* var. *Hahnii* Blake in RHODORA xxvi. 29 (1924).

Typical *L. intermedia* possesses an appressed pubescence on the stem, whereas this form has a spreading pubescence on its stem.

L. STUEVEI f. **angustifolia** (Britton), n. comb. *L. Stuevei* var. *angustifolia* Britton in Trans. N. Y. Acad. Sci. xii. 63 (1893); Blake in RHODORA xxvi. 29 (1924). *L. Stuevei neglecta* Britton in Mem. Torr. Bot. Club v. 206 (1894). *L. neglecta* Mackenzie and Bush in Trans. Acad. St. Louis xii. 17 (1902).

The only difference between this plant and the typical form of the species is in the shape of the leaflets, those of the former being linear or linear-oblong, while those of the latter are elliptic to oval.

The various differences between the three species and their forms is brought out in the descriptive key below:

- a. Leaflets linear to linear-oblong. . . . b.
- b. Pubescence of stem appressed. *L. virginica*.
- b. Pubescence of stem wide-spreading or ascending. . . . c.
- c. Upper surface of leaflets glabrous to strigillose with short hairs, lower surface merely appressed-pubescent; peti-

- oles of principal cauline leaves averaging 2.2 cm. in length; calyx and pod commonly strigillose to strigose. *L. virginica* f. *Deamii*.
- c. Upper surface of leaflets tomentose-strigose with long hairs, lower surface more densely so; petioles of principal cauline leaves averaging 1.7 cm. in length; calyx and pod commonly villous-canescens. . . . *L. Stuevei* f. *angustifolia*.
- a. Leaflets oval to elliptic-oblong, rarely suborbicular. . . . *d.*
- d. Pubescence of stem appressed. *L. intermedia*.
- d. Pubescence of stem wide-spreading or ascending. . . . *e.*
- e. Upper surface of leaflets glabrous or sparingly strigillose, lower surface strigose; petioles of principal cauline leaves nearly equalling the length of the leaves, rarely exceeding them; peduncles of petaliferous flowers averaging 11 mm. in length; calyx and pod commonly strigose to strigillose. *L. intermedia* f. *Hahnii*.
- e. Upper surface of leaflets tomentose-strigose, lower surface more densely so; petioles of principal cauline leaves shorter than the leaves; peduncles of petaliferous flowers short, averaging 6 mm. in length; calyx and pod commonly villous-canescens. *L. Stuevei*.

GRAY HERBARIUM.

FESTUCA SCIUREA IN NEW JERSEY.—While range extensions are still of frequent occurrence even in the eastern States where the flora may be considered to be comparatively well known, yet when an unreported species appears in a region which has been as carefully botanized as the Philadelphia area it seems particularly worthy of note. Few areas have received as much attention from the early American botanists, and the detailed exploration of the territory in recent times by members of the Philadelphia Botanical Club and particularly the meticulous and indefatigable work of Mr. Bayard Long in this region have made its flora one of the most intimately known in the country. But that the flora of any area is not likely to be completely known was illustrated by the discovery of a well-established colony of *Festuca sciurea* Nutt., previously unrepresented from New Jersey, near Mantua, Gloucester Co., on May 7, 1933.

In a dry sandy field and in open oak-sassafras barrens $\frac{3}{5}$ mile south of Mantua this native southern species was growing plentifully with the closely related *F. octoflora* L. Its resemblance to the latter species was very marked especially since all of the plants were dwarfs, most of them only 6–10 cm. high and the largest not over 20 cm. The very long awns, however, as well as the remarkably short leaves which were chiefly clustered at the bases of the culms so as almost to form rosettes, at once marked it as distinct, and the first glumes being distinctly more than one half the length of the second showed